

REMARKS

The Office Action mailed May 3, 2004, has been received and its contents carefully considered.

The present Amendment corrects informalities in the abstract, specification, and drawings and makes revisions in the claims to improve their form and further clarify the invention under U.S. patent practice.

Summary of Claim Amendments

Claim 1 has been amended to further clarify the invention and correct all antecedent basis issues. The last paragraph of the claim recites a “a CPU comparing,” with support beginning on page 6, line 3, and “a transmission-receiving control circuit selecting,” with support beginning on page 6, line 9. Additionally, “a predetermined level” is supported on page 8, lines 6-7.

Claim 2 has been amended to correct an antecedent basis issue with respect to “the intensity signal” as originally recited in independent claim 1.

Claim 3 has been amended to change its dependency to claim 2.

Claim 4 has been amended to further clarify the invention based on the “CPU comparing” and the “transmission-receiving control circuit selecting” as recited in the support passages found above in claim 1.

Claim 5 has been amended to correct an antecedent basis issue.

Claim 6 has been amended to further clarify the invention and correct antecedent basis issues.

Claim 7 has been amended to correct an antecedent basis issue.

Claim 8 has been amended to further clarify the invention and correct an antecedent basis issue.

Claim 9 has been amended to further clarify the invention, to correct antecedent basis issues, and to clarify the invention based on the “CPU comparing,” “a predetermined level,” and the “transmission-receiving control circuit selecting” as recited in the support passages found above in claim 1.

Claim 11 has been amended to correct an antecedent basis issue.

Claim 12 has been amended to further clarify the invention and to correct antecedent basis issues.

Claim 13 has been amended to correct an antecedent basis issue.

Claim 14 has been amended to further clarify the invention.

Claim 15 has been amended to further clarify the invention by positively reciting first, second, third and fourth communication channels.

Claim 16-18 have been amended to further clarify the invention and to correct antecedent basis issues.

Response to Objections to Drawings

The Office Action in paragraph 1 objects to bracketed text. The present Amendment includes proposed drawing changes for all the figures, deleting the bracketed text and "DRAWINGS" from Figure 1 and replacing the bracketed figure numbers in all of the figures.

The Office Action in paragraph 2 objects to the drawings under 37 C.F.R. § 1.83(a) for failing to show every feature of the invention a specified in the claims. The Office Action cites the "control circuit" and the "transmission-receiving control circuit" as not being shown in the drawings with respect to claims 1, 4, 9 and 12. Applicant clarifies that the "control circuit" of claims 1, 4, 9 and 12 is shown as the timing control circuit, having reference number 221 in Fig. 1 and reference number 321 in Fig. 3. The "transmission-receiving control circuit" of claims 1, 4, 9 and 12 is shown as the communication control circuit 242 of Figs. 1 and 3. Furthermore, the claims have been amended to more clearly recite the CPU 241 as performing the process of comparing a level of an intensity signal, and the communication control circuit 242 as performing the process of selecting communication channels as described in the specification.

The Office Action in paragraph 3 also objects to the drawings under 37 C.F.R. § 1.83(a) for failing to show every feature of the invention a specified in the claims. The Office Action cites the figures as failing to show "four circuits": a control circuit, a timing control circuit, a communication channel selecting circuit, and a transmission-receiving control circuit, as described in the specification. Applicant first directs the Examiner's attention to the deletion of the paragraph starting on page 2, line 24 through page 3, line 9. Additionally, the

selecting circuit on page 3, line 13, identifies the communication channel selecting circuit of the present invention, and the transmission-receiving control circuit identifies the communication control circuit as described above.

Response to Objections to the Specification

The Office Action in paragraph 4 objects to informalities in the specification that are addressed as follows:

- a. All first occurrences of abbreviations have been expanded and/or explained;
- b. All phrases related to subject matter not shown in the figures have been deleted;
- c. All language requiring clarification has been amended to overcome any ambiguity;
- d. All typographical errors relating to paragraphs and indentation have been corrected.

Response to Claim Objections

The Office Action in paragraph 5 objects to claims 1 and 6, alleging a discrepancy in the terms “a plurality of communication channels” and “a plurality of channels,” respectively. Applicant appreciates the Office Action’s suggestion to change both recitations to be the same, but Applicant contends that each term is used purposefully to claim that which is fully supported in the disclosure. “A plurality of communication channels” is supported, for example, on page 3, lines 10 through 13. Additionally, “a plurality of channels” is supported, for example, on page 9, lines 17 through 20. Finally, since claim 1 and claim 6 are separate independent claims, the language usage can be changed therebetween.

With respect to the objection to claims 5 and 13, the claim have been amended to recite “the transmission status.”

Response to Claim Rejections

The Office Action in paragraph 6 and 7 rejects Applicant’s claims 6-8 under 35 U.S.C. § 112, first paragraph, for lack of enablement of the disclosure. The Office Action seems to

identify Applicant's (now amended) claim 6 language of "measuring an intensity of a radio signal received through an antenna in a receiving status even during a transmission status allocated to a predetermined frame...." Support for this recitation may be found, for example, at page 6, line 23 through page 7, line 3. At any rate, the present Amendment clarifies the previous claim language, and it is respectfully submitted that the application is enabling with respect to the current version of claim 6.

The Office Action in paragraph 8 and 9 rejects Applicant's claims 6-7, 12, 15-16 and 18 under 35 U.S.C. § 112, second paragraph, as having insufficient antecedent basis.

With respect to claims 6-7, 15-16 and 18, Applicant has amended the claim language to overcome every antecedent basis issue.

With respect to claim 12, "said transmission-receiving control circuit" is previously recited in independent claim 9, from which claim 12 depends. Applicant respectfully requests that this rejection be withdrawn as it appears to be in error.

Response to Claim Rejections under 35 U.S.C. § 102

The Office Action in paragraphs 10 and 11 rejects Applicant's claims 6 through 8 under 35 U.S.C. § 102 as being anticipated by Kondou et al., U.S. Pat. No. 5,280,471, (hereinafter Kondou).

The Kondou Reference

With respect to Applicant's independent claim 6, the Office Action equates Applicant's "plurality of channels" with Kondou's plurality of time slots within a TDMA frame, per column 2 lines 54-55. However, Kondou's six time slots (T1-T6 in Figs. 3a and 3b) within the transmit TDMA frame of column 4, lines 32-34, fail to anticipate Applicant's "allocating a transmission and a receiving to one of a plurality of channels in a frame" in accordance with the preamble of claim 6.

The Office Action also alleges that the gate circuit 54 of Kondou at column 2, line 59 is equivalent to Applicant's "selecting one of the plurality of channels for communication" currently recited in claim 6. As explained above, Kondou fails to teach selecting "channels for communication," but rather the determining of a state of interference. See column 5, lines 14-24. Interference is detected when the gate 54 outputs a "low" signal for reception by

microcomputer 20. Then microcomputer 20 “requests a land site controller, . . . via a transceiver controller 16, to change the carrier frequency currently in use to another one.” (Column 5, lines 33-38.)

Since Kondou fails to teach all of Applicant’s claim recitations as demonstrated above, Applicant respectfully requests that the outstanding rejection over Kondou be withdrawn and the claim be allowed. Since independent claim 6 is patentably distinguishable over the prior art, then by necessity, claims 7 and 8 depending on independent claim 6 are also patentably distinguished over the prior art.

Response to Claim Rejections under 35 U.S.C. § 103

The Office Action in paragraphs 12 and 13 rejects Applicant’s claims 1, 3-4, 6-8, 9 and 11-12 under 35 U.S.C. § 103 over Magana et al., U.S. Pat. No. 6,4877,418, (hereinafter Magana), in view of Patsiokas et al., U.S. Pat. No. 5,203,012, (hereinafter Patsiokas).

The Magana Reference

Magana discloses a channel selection circuit 10 including an antenna 20, an RF module 14, an A/D converter 36, a content addressable memory (CAM) 42, a micro controller 12 and a channel latch 28. The antenna 20, the RF module 14, and the A/D converter 36 are similar to the present invention; however, Magana discloses that the channel is selected by means of selecting a stored address in the content addressable memory (CAM) 42 (see column 2, lines 24 through 31, and column 3, lines 31 through 49). The stored address is indicative of a free channel that is sorted for the lowest RSSI value representing the optimal channel on which the telephone should operate (column 4, lines 34-37), wherein the controller 12 sends a request to CAM 42 to output onto bus 44 to controller 12 the number (address) representing the optimal channel for communication, (column 4, lines 37-40). The RSSI value is the highest signal value during a predetermined period of time as sampled by the peak detector 26 (column 3, lines 6-30).

Magana fails to teach Applicant’s amended claim language in independent claims 1 and 9, of “comparing the level of the intensity signal stored in said register/storage circuits with a predetermined level,” and independent claim 6, “comparing the intensity of the radio

signal with a predetermined level.” As indicated above, Magana teaches that the RSSI value stored in CAM 42 is sorted again for the lowest value. Magana clearly teaches away from comparing against “a predetermined level,” as the stored RSSI values are being compared with constantly changing newly stored RSSI values when the controller 12 sends a request to CAM 42 to perform the sorting and identification of the lowest value.

Therefore, Magana fails to teach Applicant’s amended claim recitations of “comparing the level of the intensity signal stored in said register/storage circuits with a predetermined level.”

The Patsiokas Reference

The Office Action acknowledges that Magana fails to show explicitly Applicant’s transmission status (recited in Applicant’s claims 1, 6 and 9), a control circuit outputting a timing signal for each of the channels during the transmission state (recited in Applicant’s claims 1 and 9), and a transmission-receiving control circuit (recited in Applicant’s claims 1 and 9). The Office Action uses the teaching of Patsiokas to show a transmission status (antenna switch), a control circuit that outputs a timing signal (controller), and a transmission-receiving control circuit (208) comparing a level stored in a register and selecting a channel for transmission and receiving. However, since Magana fails to teach Applicant’s amended claim recitations, as identified above, the combination of Magana in view of Patsiokas fails to teach every element of Applicant’s claimed invention. Accordingly, Applicant respectfully requests that the outstanding rejection be withdrawn and the claims be allowed. Since, independent claims 1, 6 and 9 are patentably distinguishable over the prior art, then by necessity, claims 3-5, 7-8, and 11-12 depending on independent claim 1, 6 and 9, respectively, are also patentably distinguished over the prior art.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,



Allen Wood
Allen Wood
Registration No. 28,134
RABIN & BERDO, PC
Suite 500
1101 14th Street, NW
Washington, DC 20005
Customer No. 23995
Telephone: 202-371-8976
Facsimile: 202-408-0924

AW:djl/rw

ABSTRACT OF THE DISCLOSURE

A communication channel selecting circuit ~~corresponding to radio signal intensity~~, which can ~~selects~~ select and ~~uses~~ use a channel ~~which that~~ does not disturb or interfere with ~~the other another~~ radio apparatus, avoiding ~~the a~~ channel occupied by other similar radio apparatus nearby, is provided. [[A]] The communication channel selecting circuit ~~which~~ selects a communication channel in accordance with radio signal intensity, the selecting circuit transmitting and receiving radio signals in a plurality of ~~channels~~, provides a channels.
A radio unit ~~102 outputting outputs~~ a signal RSSI indicating radio signal intensity of a radio signal received through an antenna ~~101~~ in a receiving status and transmitting a radio signal to the antenna ~~101~~ in a transmission status; a status. A control circuit ~~221~~ which sets the radio unit ~~102~~ to the receiving status even at a transmission timing. The communication channel selecting circuit further ~~comprises includes~~ includes a timing control circuit ~~221~~ which outputs a timing signal ~~from LT21 to LT24~~ for each of the plurality of channels at the transmission timing, a register ~~from 211 to 214~~ which stores a signal level outputted from the radio unit in the receiving status corresponding to the timing signal ~~from LT21 to LT24~~ and a transmission receiving control circuit ~~242~~ which compares the signal level stored in the register ~~from 211 to 214~~ and selects one of the plurality of channels to transmit/receive.